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GULF POWER
A SOUTHERN COMPANY

February 13, 2015

REDACTED

Ms. Carlotta Stauffer, Commission Clerk
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee FL 32399-0850

Re: Docket No. 150035-EI – Petition for approval of energy purchase agreements between Gulf Power Company and Gulf Coast Solar Center I, LLC, Gulf Coast Solar Center II, LLC, and Gulf Coast Solar Center III, LLC

Dear Ms. Stauffer:

Enclosed is Gulf Power Company's response to Commission Staff's First Data Request (Nos. 1-44) in the above-referenced docket.

Sincerely,

Robert L. McGee, Jr
Regulatory and Pricing Manager

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Enclosures

cc: Beggs & Lane
Jeffrey A. Stone, Esq.
Office of General Counsel
Lee Eng Tan
Division of Engineering
Robert Graves
Division of Economics
William McNulty
Division of Accounting & Finance
Bart Fletcher

* NOTE: CD only contains MS Excel files
-CTC 2/16/15

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1. At pages 4, 5, and 6, Gulf states that preliminary analyses indicate that the substation and adjacent transmission facilities can accommodate the output of each solar facility without any adverse impacts or expense to Gulf Power.
   a. Who performed these analyses?
   b. When does Gulf anticipate final analyses will be completed?

RESPONSE:

a. Southern Company Services Transmission Planning performed all analysis related to determining whether the substation and adjacent transmission facilities can accommodate the output of each solar facility without adverse impacts or expense to Gulf Power.

b. Designation studies for each of the facilities were completed on February 6, 2015. The purpose of a designation study is to determine the impact that a project will have on the transmission system. The designation study results are consistent with Gulf's preliminary analyses.

2. At page 8, Gulf states that the three solar facilities are expected to deliver approximately 240,000 MWh based on an anticipated capacity factor of 23 percent.
   a. What is the basis for the anticipated capacity factor of 23 percent?

RESPONSE:

The basis for the anticipated capacity factor is directly related to the amount of energy expected to be delivered by the three projects on an annual basis. The anticipated energy delivered from the projects is based on production forecast modeling for the three systems, which incorporate a variety of key criteria including location-specific historical and forecasted weather data, preliminary system design and system efficiencies.

3. Please complete the table below summarizing the projected generation of each solar facility. Please provide this information in MS Excel format.

	Solar Center I	Solar Center II	Solar Center III
2016			
2017			
2018			
2019			
2020			
2021			
2022			
2023			
2024			
2025			
2026			
2027			
2028			
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RESPONSE:

	Solar Center I	Solar Center II	Solar Center III
2016	3641	4863	5928
2017	60296	81205	99700
2018	59994	80799	99202
2019	59694	80395	98706
2020	59414	80016	98245
2021	59099	79593	97721
2022	58803	79195	97233
2023	58509	78799	96747
2024	58235	78428	96295
2025	57925	78013	95782
2026	57636	77623	95303
2027	57348	77235	94826
2028	57079	76871	94384
2029	56776	76464	93880
2030	56492	76082	93411
2031	56209	75701	92944
2032	55946	75345	92510
2033	55649	74946	92017
2034	55370	74572	91557
2035	55094	74199	91099
2036	54835	73849	90674
2037	54544	73459	90190
2038	54271	73091	89739
2039	54000	72726	89290
2040	53747	72383	88874
2041	49573	66799	82051
2042	N/A	N/A	N/A
2043	N/A	N/A	N/A

*Note: 2016 is prorated for 1 month and 2041 is prorated for 11 months.

Electronic attachments are located on the enclosed DVD labeled Docket No. 150035-EI Staff's First Data Request (Nos 1-44) Disk 2. Please see Excel file named "DR1-3.Project generation.xlsx".

4. At page 9, Gulf states that the Agreements were analyzed assuming the Company's 2014 and 2015 energy budget. Please complete the table below summarizing the financial assumptions associated with the two budgets.

	2014 Energy Budget	2015 Energy Budget
Discount Rate		
Capital Structure		
Debt		
Equity		
Weighted Average Cost of Capital		

RESPONSE:

The financial assumptions presented in the table below are not inputs into Gulf's 2014 and 2015 Energy Budgets. However, the financial assumptions are necessary to derive the discount factor that was utilized to calculate the NPVs in the economic analyses. The same discount factor was used to evaluate the cost effectiveness of the agreements for both the 2014 and 2015 Energy Budget scenarios.

	2014 Energy Budget		2015 Energy Budget	
Discount Rate (After Tax WACC)	6.7%		6.7%	
Capital Structure\Cost Rate				
Debt	50%	5.8%	50%	5.8%
Preference Stock	5%	6.5%	5%	6.5%
Common Equity	45%	10.25%	45%	10.25%
Weighted Average Cost of Capital	7.8%		7.8%	

5. Please identify and discuss major differences between the Company's 2014 and 2015 energy budget.

RESPONSE:

The major differences between the 2014 and 2015 energy budget are the underlying fuel price and load forecasts assumptions. Natural gas prices and the Gulf load forecast were lower in the 2015 energy budget as compared to the 2014 energy budget.

6. At pages 9-10, Gulf describes the results of its cost benefit analyses of the proposed agreements. What capacity factor was assumed for the purposes of Gulf's cost benefit analyses? Please provide this information for each facility.

RESPONSE:

A capacity factor was not assumed for the purposes of Gulf's cost benefit analyses. Instead, Gulf's cost benefit analyses were based on the expected hourly production for each facility as described in more detail in Gulf's response to Item No. 2.

7. Please complete the table below assuming approval of all three agreements. Please provide this information assuming Gulf's 2014 energy budget and Gulf's 2015 energy budget. Please provide this information in MS Excel format.

Year	Annual Total Revenue Requirements w/ 3 agreements ($millions, 2015 $)	Annual Total Revenue Requirements w/o 3 agreements ($millions, 2015 $)	Differential in Annual Total Revenue Requirements ($millions, 2015 $)	Differential in Customer Bill of 1,000 kwh ($)
2016				
2017				
2018				
2019				
2020				
2021				
2022				
2023				
2024				
2025				
2026				
2027				
2028				
2029				
2030				
2031				
2032				
2033				
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2042				
2043				

RESPONSE:

Confidential electronic attachments are located on the enclosed DVD labeled Docket No. 150035-EI Staff's First Data Request (Nos 1-44) Disk 1. Please see Excel file named "DR1-7.Revenue Requirements CONF.xlsx".

8. Please complete the table below for each respective scenario over the term of the Agreement(s).

Net Present Value Differential ($millions, 2015 $)		
Agreements Approved	2014 Budget	2015 Budget
Eglin		
Saufley		
Holley		
Eglin and Holley		
Eglin and Saufley		
Holley and Saufley		

RESPONSE:

Net Present Value Differential ($millions, 2015$)*

Agreements Approved	2014 Budget	2015 Budget
Eglin, Holley, and Saufley	-17.4	-2.8
Eglin	-3.2	0.5
Saufley	-4.9	1.1
Holley	-4.2	0.7
Eglin and Holley	-8.5	0.0
Eglin and Saufley	-9.5	0.2
Holley and Saufley	-10.6	0.3

*The negative differential represents benefit to the customer

9. At page 10, Gulf states that its evaluations do not assign value for capacity. Does Gulf project that approval of the agreements will defer the construction of future facilities? If yes, please identify the future facility or facilities that may be deferred. Please include the technology type, capacity (MW), and in-service date.

RESPONSE:

No.

10. At page 10, the Company indicates that

> Contract energy pricing for year 10 and 13 through 19 is slightly above Gulf's projected cost of generation. The Primary driver of the differences between the 2014 and 2015 evaluations is a lower fuel cost projection for the 2015 energy budget.

Please explain why the lower fuel cost projection affected the Agreements' economics for Years 10 and 13 through 19 specifically, but not for the other years within the contract period.

RESPONSE:

The lower fuel cost projection in the 2015 energy budget affected the Agreements' economics in a similar manner throughout the contract life. Under the 2014 energy budget, contract energy pricing for year 10 and years 13 through 19 was below Gulf's projected cost of generation, but less so than other years. Since the fuel cost projection declined from the 2014 energy budget to the 2015 energy budget, and Gulf's projected cost of generation declined in all years, the contract energy pricing in the individual years 10 and 13 through 19 moved from being just below Gulf's projected cost of generation to just above Gulf's projected cost of generation as stated on page 10 of Gulf's petition. Contract energy pricing in other individual years moved closer to Gulf's projected cost of generation, but was still below it. Taken together over the life of the contracts, the NPV benefit of executing the contracts is in the customers' favor.

11. At page 11, Gulf states that the agreements are expected to cost-effectively meet a variety of statutory and policy-based goals and objectives including reducing dependence on fossil-fueled generation. Please complete the table below assuming approval of all three agreements. Please provide this information in MS Excel format.

Year	Avoided Natural Gas (MMBtu)	Avoided Oil (Barrels)
2016		
2017		
2018		
2019		
2020		
2021		
2022		
2023		
2024		
2025		
2026		
2027		
2028		
2029		
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2043		

RESPONSE:

Year	Avoided Natural Gas (MMBtu)	Avoided Coal (Tons)*
2016	0	6,757
2017	0	112,933
2018	0	112,369
2019	0	111,807
2020	0	111,283
2021	0	110,692
2022	0	110,138
2023	0	109,587
2024	0	109,074
2025	0	108,494
2026	0	107,952
2027	0	107,412
2028	0	106,909
2029	0	106,341
2030	0	105,809
2031	0	105,280
2032	0	104,787
2033	0	104,230
2034	0	103,709
2035	0	103,190
2036	0	102,706
2037	0	102,161
2038	0	101,650
2039	0	101,142
2040	0	100,668
2041	0	92,904
2042	-	-
2043	-	-

*Heading changed. See note on page 3.

Electronic attachments are located on the enclosed DVD labeled Docket No. 150035-EI Staff's First Data Request (Nos 1-44) Disk 2. Please see Excel file named "DR1-11.Avoided Gas_Coal.xlsx".

Note: The addition of coal in tons and removal of oil is due to Gulf's generation makeup. The solar generation energy will displace the highest cost fuel generation which is coal. Oil is only used for start-up, flame stabilization and if natural gas is interrupted at the Central Alabama generating facility in extreme cases. Natural gas generation will not be displaced due to its lower cost and position in economic dispatch.

12. At page 11, Gulf states that the agreements are expected to cost-effectively meet a variety of statutory and policy-based goals and objectives including reducing environmental impacts. Please complete the table below assuming approval of all three agreements. Please provide this information in MS Excel format.

Year	Avoided CO2 (Tons)	Avoided NOX and SO2 (Tons)
2016		
2017		
2018		
2019		
2020		
2021		
2022		
2023		
2024		
2025		
2026		
2027		
2028		
2029		
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RESPONSE:

Year	Avoided CO2 (Tons)	Avoided NOX and SO2 (Tons)
2016	16,552	21.39
2017	276,630	357.44
2018	275,247	355.65
2019	273,870	353.87
2020	272,587	352.22
2021	271,139	350.34
2022	269,783	348.59
2023	268,434	346.85
2024	267,176	345.22
2025	265,756	343.39
2026	264,428	341.67
2027	263,105	339.97
2028	261,872	338.37
2029	260,481	336.57
2030	259,179	334.89
2031	257,883	333.22
2032	256,674	331.66
2033	255,310	329.89
2034	254,034	328.24
2035	252,764	326.60
2036	251,579	325.07
2037	250,242	323.34
2038	248,991	321.73
2039	247,746	320.12
2040	246,585	318.62
2041	227,568	294.05
2042	-	-
2043	-	-

Electronic attachments are located on the enclosed DVD labeled Docket No. 150035-EI Staff's First Data Request (Nos 1-44) Disk 2. Please see Excel file named "DR1-12.Avoided CO2 & NOX.xlsx".

13. At page 11, Gulf states that the agreements are expected to cost-effectively meet a variety of statutory and policy-based goals and objectives including providing fuel diversity. Please complete the table below assuming approval of all three agreements.

Energy Generation by Fuel Type (%)					
	Natural Gas	Oil	Coal	Renewable	Other
2013					
2014					
2015					
2016					
2017					
2018					
2019					
2020					

RESPONSE:

Energy Generation by Fuel Type (%)					
	Natural Gas	Oil	Coal	Renewable	Other
2013	59.99%	0.00%	38.04%	0.44%	1.53%
2014	51.90%	0.01%	46.76%	0.41%	0.92%
2015	64.68%	0.00%	33.36%	0.24%	1.72%
2016	64.43%	0.00%	33.48%	0.37%	1.72%
2017	60.46%	0.00%	36.11%	1.83%	1.60%
2018	57.62%	0.00%	38.95%	1.81%	1.62%
2019	54.71%	0.00%	41.86%	1.79%	1.64%
2020	50.57%	0.00%	46.08%	1.73%	1.62%

14. At page 11, Gulf states that the ROFRs provide Gulf Power with a right to purchase one or more of the solar facilities in the event that Gulf Coast decides to sell one or more facilities to a third party. If the Commission approves the proposed agreements and Gulf Power purchases one of the solar facilities would Gulf seek Commission approval for cost recovery of the purchase at the time the purchase is made?
    a. If yes, how does Gulf believe the costs should be recovered? (i.e. Base Rates, Conservation Clause, etc.)
    b. If no, please explain why not.

RESPONSE:

Gulf does not believe additional approval would be necessary so long as the approved energy purchase agreement continues in effect in all material aspects. Given the current state of the law with respect to federal investment tax credit normalization requirements for investor-owned public utilities, it is unlikely that Gulf Power Company itself could cost-effectively purchase one or more of the solar facilities. If Gulf Coast decides to sell and a ROFR is subsequently exercised, it is more likely that Gulf Power would assign its ROFR rights to an unregulated subsidiary or affiliate. In such event, the ownership of the solar facility would vest in the unregulated subsidiary or affiliate subject to the existing contract with Gulf Power. Gulf Power would continue to purchase energy in accordance with the terms of the existing energy purchase agreement – thus preserving the value of the energy purchase agreement as approved by the FPSC for Gulf's customers. As such, the transfer of ownership would not have any impact on energy payments made by Gulf under the energy purchase agreement. Such payments would continue to flow through the Fuel and Purchased Power Cost Recovery Clause.

15. Please identify terms within the proposed agreements that are intended to ensure that the adequacy and reliability of electric service will not be adversely affected by the solar plants associated with the proposed agreements.

RESPONSE:

The agreements contain a variety of provisions that are intended to ensure that the adequacy and reliability of electric service will not be adversely affected by the solar plants. Such provisions include articles: 2.5 (requiring that the facilities be designed, constructed and commissioned in accordance with Prudent Industry Practices and certain standards approved by Gulf Power); 4.1 (requiring that the facilities be operated and maintained in accordance with Prudent Industry Practices and detailed Operating Procedures to be developed by the parties); 4.7 (requiring reasonable notice to Gulf Power of any unplanned outages); 4.8 (requiring annual, monthly and daily availability forecasts); 5.1 (requiring provision of Seller performance security); 6.1.3 (requiring Seller to execute and maintain interconnection agreements); 7.7 through 7.9 (requiring Seller to curtail or cease energy deliveries under various circumstances including Emergency Conditions on Gulf's system and load balancing situations); and 11.1.12 (providing for an event of default in the event Seller fails to comply with any material terms and conditions of the agreements).

The following questions relate to Gulf's renewable attributes/credits received by Gulf from the proposed agreements.

16. At page 9, Gulf states that the sale of renewable attributes would be returned to Gulf's retail customers in the form of credits to the Fuel and Purchased Power Cost Recovery Clause. Please complete the table below projecting anticipated proceeds that may result from the sale of renewable attributes. Please provide this information in MS Excel format.

Year	Credit from the Sale of Renewable Attributes ($millions, 2015 $)	Impact on Customer Bill of 1,000 kwh ($)
2016		
2017		
2018		
2019		
2020		
2021		
2022		
2023		
2024		
2025		
2026		
2027		
2028		
2029		
2030		
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2042		
2043		

RESPONSE:

Year	Credit from the Sale of Renewable Attributes ($millions, 2015 $)	Impact on Customer Bill of 1,000 kwh ($)
2016	0.011	$0.001
2017	0.181	$0.016
2018	0.180	$0.015
2019	0.179	$0.015
2020	0.178	$0.015
2021	0.177	$0.015
2022	0.176	$0.014
2023	0.176	$0.014
2024	0.175	$0.014
2025	0.174	$0.014
2026	0.173	$0.014
2027	0.172	$0.013
2028	0.171	$0.013
2029	0.170	$0.013
2030	0.169	$0.013
2031	0.169	$0.013
2032	0.168	$0.012
2033	0.167	$0.012
2034	0.166	$0.012
2035	0.165	$0.012
2036	0.165	$0.012
2037	0.164	$0.012
2038	0.163	$0.011
2039	0.162	$0.011
2040	0.161	$0.011
2041	0.149	$0.010
2042	-	-
2043	-	-

At this time, Gulf has no plans for the sale of the renewable attributes. If Gulf were to sell the renewable attributes the value of the attributes are approximated. These prices are based on Green E pricing in the voluntary market as they exist today. The highest annual value of the RECs for all three projects is $180,900.

Electronic attachments are located on the enclosed DVD labeled Docket No. 150035-EI Staff's First Data Request (Nos 1-44) Disk 2. Please see Excel file named "DR1-16.Anitcipated proceeds.xlsx".

17. How many renewable energy credits (RECs) will be associated with the Eglin Agreement?

RESPONSE:

The anticipated sum of the renewable energy credits over the life of the project for the Eglin facility is 1,420,177.

18. How many RECs will be associated with the Holley Agreement?

RESPONSE:

The anticipated sum of the renewable energy credits over the life of the project for the Holley facility is 1,912,647.

19. How many RECs will be associated with the Saufley Agreement?

RESPONSE:

The anticipated sum of the renewable energy credits over the life of the project for the Saufley facility is 2,348,307.

20. What did Gulf rely on for the statement in paragraph 18 of its petition that the "[g]reen-e solar renewable energy credits are selling on the voluntary market for approximately $0.75 per credit."?

RESPONSE:

The price quoted in Gulf's petition was sourced from ICAP Energy LLC's daily Emissions & REC Recap market pricing communication distributed at the end of each business day outlining daily market prices for each specific Renewable Energy Credit (RECs) types.

The following questions (21 and 22) relate to how Gulf will account for the RECs associated with the energy purchase agreements in the instant docket, on its books.

21. If applicable, what will be Gulf's journal entries, including all account names and numbers, to record the RECs initially on its books?

RESPONSE:

These RECs are bundled with the purchase of energy and provided at no cost. One hundred percent of the purchase price is allocated to energy and zero percent allocated to the RECs. The purchase price will be recorded in FERC account 555 (Purchased Power).

22. What will be Gulf's journal entries, including all account names and numbers, to record any subsequent sale of the RECs to another entity?

RESPONSE:

The subsequent sale of these RECs will be debited to FERC account 131 (Cash) and credited to FERC account 555 (Purchased Power).

23. Please provide the following documents in MS Excel format (with formulae intact):
    a. The Company's 2015 fuel price forecasts (system-wide and in nominal $/MMBtu) for the years 2015-2043, shown as commodity, transportation, and delivered fuel prices;
    b. The Company's actual annual fuel prices (system-wide and in nominal $/MMBtu) for the years 2008-2014, shown as commodity, transportation, and delivered prices.
    c. The relevant portion of the Company's 2014 energy budget that was used in evaluating the cost-effectiveness of the proposed Agreements;
    d. The relevant portion of the Company's 2015 energy budget that was used in evaluating the cost-effectiveness of the proposed Agreements;
    e. Each alternative fuel price forecast sourced from third party forecasting entities, not specifically prepared by SES or Charles River and Associates, which Gulf Power used to compare to the Company's 2014 and 2015, respectively, fuel price forecasts as a test for reasonableness.

RESPONSE:

a. The Company's confidential 2015 fuel price forecasts for years 2015-2043 are shown in electronic attachments located on the enclosed DVD labeled Docket No. 150035-EI Staff's First Data Request (Nos 1-44) Disk 1. Please see Excel file named "DR1-23a.2015 Fuel Price Forecasts 2015-2043 CONF.xlsx".

   Forecasts include commodity, transportation, and delivered coal prices to the Company's Plant Crist and natural gas commodity (at Henry Hub), transportation, and delivered prices to Plant Smith.

b. Due to the large size of the data being provided electronic attachments are located on the enclosed DVD labeled Docket No. 150035-EI Staff's First Data Request (Nos 1-44) Disk 2. Please see Excel file named "DR1-23b.Actual Fuel Prices 2008-2014.xlsx".

c.-d. Confidential electronic attachments are located on the enclosed DVD labeled Docket No. 150035-EI Staff's First Data Request (Nos 1-44) Disk 1. Please see Excel file named "DR1-23c-23d CONF.xlsx".

e. Confidential electronic attachments are located on the DVD labeled Docket No. 150035-EI Staff's First Data Request (Nos 1-44) Disk 1. Please see Excel file named "DR1-23e.Alternative Fuel Price forecasts-CONF.xlsx".

Electronic attachments are located on the enclosed DVD labeled Docket No. 150035-EI Staff's First Data Request (Nos 1-44) Disk 2. Please see Excel file named "DR1-23e.Alternative Fuel Price forecasts-public.xlsx".

24. Please explain how each of the fuel price forecasts included in Gulf Powers' referenced 2014 and 2015 energy budget was developed.

RESPONSE:

Southern Electric System (SES) Fuel Forecast Process

SES develops short-term (current year +2) and long-term (year 4 and beyond) fuel price forecasts which extend through the Company's 10-year planning horizon and longer for resource planning. The short-term forecasts are developed by SCS Fuel Services for use in the system's fuel budgeting process and marginal pricing dispatch procedures. The long-term forecasts are developed in the spring of each year for use in system planning activities. Charles River Associates (CRA) is the modeling vendor used by the system to develop the long-term forecasts. This process is a collaborative effort between CRA and members of cross-functional SES planning teams, including Gulf Power personnel, and is governed by an SES executive team.

Fuel market-driving assumptions, developed in collaboration between CRA and SES personnel, are integrated into CRA's model to develop commodity forecast prices. Transportation prices are developed by SES personnel and are combined with the CRA commodity prices to produce the total delivered prices.

The delivered price of any fuel consists of a variety of components. The main components are commodity price and transportation cost. Domestic coal commodity prices are forecast on either a mine-mouth basis or free on board (FOB) barge basis, while import coals are forecast on an FOB ship basis at the port of import. Natural gas prices are forecast at the Henry Hub, Louisiana benchmark delivery point. Because mine-mouth coal prices vary by source, sulfur content, and Btu level, SES prepares commodity price forecasts for different coal classifications used on the SES. Because natural gas does not possess the same quality variations as coal, SES prepares a single commodity price forecast for natural gas at Henry Hub, and applies a basis differential between Henry Hub and the various pipelines serving SES plants.

Transportation costs, to be used in the delivered price forecast, are developed for potential sites when modeling generic unit additions in the resource planning process. Site-specific transportation costs are developed for existing units to produce delivered price forecasts for both the process and the fuel budget process. Similarly, when site-specific unit additions are under consideration, site-specific transportation costs are developed for each option.

25. For each of Gulf Power's 2014 and 2015 fuel price forecasts used to support the proposed energy purchase agreements, please identify the sources and the dates of the forecast inputs and assumptions.

RESPONSE:

As described in the Gulf's response to Item No. 24, the fuel price forecasts are produced by third-party consultant CRA working collaboratively with SES personnel using inputs as described in response to Item No. 24. The long-term forecasts (year 4 and beyond) used in Gulf's analyses were developed annually in the spring of each year. The short-term forecast (current year +2) used in Gulf's analyses were developed in November 2013 and September 2014.

26. Please identify all third party consultants relied upon in developing the Company's 2014 and 2015 fuel price forecasts.

RESPONSE:

As described in the Gulf's response to Item No. 24, Charles River Associates (CRA) is the third party consultant used in developing the long-term fuel price forecasts.

27. Did the Company consider different scenarios (e.g. high, medium, and low) in developing its 2014 and 2015 fuel price forecasts? Please explain.

RESPONSE:

A range of scenario forecasts was developed for the 2014 and 2015 SES planning process. Each long-term forecast is developed using different views of fuel market drivers, environmental regulations, and other factors which produces a range of independent fuel price forecasts of equal likelihood.

28. If your response to 27 is affirmative, please specify which fuel pricing scenario[s] were selected in developing the energy budget to evaluate the economics of the proposed agreements, and provide the rationale for the selection. If your response to 27 is negative, please explain why not.

RESPONSE:

From the range of high to low fuel price forecasts, one scenario is chosen to produce the Company's energy budget. That forecast represents a moderate view (neither the highest nor the lowest) of fuel prices and current CO_2 policy pressure.

29. When did the Company complete its 2014 and 2015 fuel price forecasts, respectively, which were used in the economic analysis of this Petition?

RESPONSE:

The Company's energy budgets are developed annually and typically released in the final months of the year so that they are available for use in the upcoming year. For example, the 2014 energy budget was released in fall of 2013, and the 2015 energy budget was released in the fall of 2014. The long-term fuel forecasts are one component of developing the energy budgets and must be completed earlier in the year, typically the previous spring, in order to support the development of other energy budget inputs (See the Gulf's response to Item No. 39a). Accordingly, the long-term fuel forecasts used in the 2014 and 2015 analyses were developed in the spring of 2013 and 2014, respectively. As described in Gulf's response to Item No. 24, the short-term fuel price forecasts are developed monthly and are typically available closer to the release of the energy budget. Accordingly, the short-term fuel forecasts for the 2014 and 2015 energy budgets were completed in November 2013 and September 2014, respectively.

30. Please list the differences in the methodology and results of the fuel price forecasts used in this docket compared to the fuel price forecasts provided to the Commission in the Company's latest rate case and in support of the Company's 2014 Ten Year Site Plan.

RESPONSE:

The same methodology described in Gulf's response to Item No. 24 was used for all fuel price forecasts. Any difference in the fuel price forecast results is due to the date the forecast was produced.

31. In light of Gulf Power's latest available actual 2014 fuel prices, how accurate are the Company's 2014 fuel price forecasts? Please provide work papers (in MS Excel format with formula intact) to support your response.

RESPONSE:

Gulf's short term fuel price forecast is typically a market futures price. Market commodity prices are volatile due to changing conditions that influence supply and demand for fuel. In addition, actual weighted average coal prices are subject to changes in the generation mix between coal and natural gas fired plants. Shown below is the comparison of Gulf's forecast price for natural gas and coal and the actual prices by month.

Electronic attachments are located on the enclosed DVD labeled Docket No. 150035-EI Staff's First Data Request (Nos 1-44) Disk 2. Please see Excel file named "DR1-31.Forecast vs Actual fuel purchases.xlsx".

Gas Purchases
Commodity Weighted Average

	2014 Gulf Forecast $/MMBtu	Gulf Actual $/MMBtu	Variance $/MMBtu	Variance %
Jan-14	$3.98	$4.74	$0.75	15.9%
Feb-14	$3.99	$6.25	$2.26	36.2%
Mar-14	$3.92	$4.93	$1.02	20.6%
Apr-14	$3.88	$4.40	$0.52	11.9%
May-14	$3.88	$4.55	$0.66	14.5%
Jun-14	$3.94	$4.66	$0.72	15.4%
Jul-14	$3.98	$4.10	$0.12	3.0%
Aug-14	$3.99	$3.99	$0.00	0.0%
Sep-14	$3.97	$3.98	$0.01	0.3%
Oct-14	$3.97	$3.83	-$0.14	-3.7%
Nov-14	$4.04	$4.07	$0.02	0.6%
Dec-14	$4.23	$3.54	-$0.69	-19.5%
TOTAL	**$3.98**	**$4.36**	**$0.37**	**8.6%**

Coal Purchases
Delivered Weighted Average

	2014 Gulf Forecast $/Ton	Gulf Actual $/Ton	Variance $/Ton	Variance %
Jan-14	$93.85	$84.65	-$9.20	-10.9%
Feb-14	$94.60	$99.14	$4.54	4.6%
Mar-14	$92.91	$83.70	-$9.21	-11.0%
Apr-14	$94.63	$82.31	-$12.32	-15.0%
May-14	$88.48	$81.00	-$7.48	-9.2%
Jun-14	$95.84	$87.18	-$8.66	-9.9%
Jul-14	$84.28	$82.35	-$1.93	-2.3%
Aug-14	$85.43	$78.43	-$7.00	-8.9%
Sep-14	$83.23	$81.32	-$1.91	-2.3%
Oct-14	$93.72	$85.20	-$8.52	-10.0%
Nov-14	$95.59	$83.27	-$12.32	-14.8%
Dec-14	$93.53	$84.56	-$8.97	-10.6%
TOTAL	**$90.33**	**$83.92**	**-$6.41**	**-7.6%**

32. Please identify and explain any deviations the Company employed in its forecasting process used to develop its 2015 fuel price forecast relative to the forecasting process identified on pages 46 and 47 of Gulf's 2014 Ten Year Site Plan.

RESPONSE:

There were no deviations in the methodology or process the Company employed in developing the 2015 fuel price forecast relative to the process described in the Company's 2014 Ten Year Site Plan and in the Company's response to Item No. 24.

33. Please refer to Data Request 23e. Describe the conclusions Gulf may have drawn from each such test of reasonableness. If no alternative fuel price forecasts originally sourced from third party forecasting entities were used by Gulf Power to compare, respectively, to Gulf's 2014 and 2015 fuel price forecast for reasonableness, explain why such an approach was not taken.

RESPONSE:

As described in Gulf's response to Item No. 28, the Company takes a moderate view when selecting the fuel forecast to use for its energy budget. As shown in the Confidential Attachment to Item No. 23e, the Company believes that its moderate natural gas forecast is within the range of these alternative third-party fuel price forecasts.

34. What are the appropriate discount factors to apply to the nominal forecasts provided in response to this data request that convert Gulf Power's fuel price forecasts to 2012 dollars? Explain the derivation of each.

RESPONSE:

The discount factors for the 2014 and 2015 forecasts are shown in the table on page 2 for years 2012-2043. The discount factor is derived by dividing the GDP Deflator for the constant reference year (2012) by the GDP Deflator for the projected year.

For example, the discount factor for 2020 in the 2014 Forecast (0.8543) equals the GDP deflator for 2012 (115.36) divided by the GDP deflator for 2020 (135.03).

Year	Discount Factor for 2014 Forecast	GDP Deflators for 2014 Forecast*		Discount Factor for 2015 Forecast	GDP Deflators for 2015 Forecast*
2012	1	115.36		1	105.00
2013	0.9808	117.62		0.9851	106.59
2014	0.9608	120.06		0.9722	108.00
2015	0.9427	122.37		0.9529	110.19
2016	0.9252	124.69		0.9336	112.47
2017	0.9076	127.10		0.9141	114.87
2018	0.8889	129.78		0.8956	117.24
2019	0.8713	132.39		0.8790	119.46
2020	0.8543	135.03		0.8642	121.50
2021	0.8373	137.79		0.8495	123.60
2022	0.8204	140.62		0.8348	125.78
2023	0.8036	143.55		0.8202	128.02
2024	0.7869	146.59		0.8057	130.32
2025	0.7708	149.67		0.7916	132.64
2026	0.7553	152.73		0.7779	134.98
2027	0.7404	155.81		0.7644	137.36
2028	0.7260	158.89		0.7509	139.84
2029	0.7121	162.00		0.7372	142.43
2030	0.6986	165.13		0.7237	145.09
2031	0.6855	168.28		0.7103	147.82
2032	0.6727	171.48		0.6970	150.64
2033	0.6603	174.72		0.6839	153.53
2034	0.6481	177.99		0.6712	156.44
2035	0.6362	181.33		0.6590	159.34
2036	0.6246	184.70		0.6474	162.18
2037	0.6132	188.14		0.6364	164.99
2038	0.6018	191.68		0.6259	167.76
2039	0.5907	195.31		0.6161	170.43
2040	0.5796	199.04		0.6070	172.99
2041	0.5689	202.79		0.5984	175.48
2042	0.5585	206.56		0.5901	177.95
2043	0.5483	210.40		0.5822	180.35

* Source: Moody's Analytics

35. For each natural gas price forecast provided in response to these data requests, please explain how Gulf accounted for the basis differential in its forecast and identify the basis for each forecast year.

RESPONSE:

The projected annual average basis differentials between Henry Hub and various pipeline pricing points as derived from published data in Platts Gas Daily and relevant to the Company for the 2014 and 2015 Energy Budgets is located as an confidential electronic attachment on the enclosed DVD labeled Docket No. 150035-EI Staff's First Data Request (Nos 1-44) Disk 1. Please see Excel file named "DR1-35.Annual average base differentials CONF.xlsx".

36. Please provide a detailed description of how the Company's fuel price forecasts were used in developing the Company's energy budgets for the corresponding years.

RESPONSE:

The Company's projection of fuel prices is one of several components of projecting each generating unit's dispatch cost. Other components include, heat rates, variable O&M costs, etc. Each generating unit's dispatch cost then becomes an input to PROSYM, an hourly production cost model used to simulate system unit commitment and dispatch. PROSYM seeks to minimize the production cost of the system through simulated economic dispatch. The results of this modelling process are used to develop the energy budget which includes marginal cost projections for the system as well as unit specific burn, fuel costs and operating costs.

37. Has the Company performed any scenario analyses to study the potential cost-effectiveness outcomes of the proposed energy purchase agreements in cases where the projected fuel prices are low and the projected solar energy delivered is low (e.g. ADP = 75%), or vice versa (i.e. the projected fuel prices are high and the projected solar energy delivered is high (e.g. ADP = 110%))?

RESPONSE:

Gulf has not performed the scenario analyses because Gulf's analysis of the solar projects using the 2014 energy budget showed that the projects were well below avoided cost. Even after updating to the new energy budget which incorporated even lower fuel prices, the projects were still cost-effective. Given the relatively simple nature of solar PV generation, the performance protections built into the contracts, and the already low fuel prices built into the analyses, Gulf did not deem additional sensitivity analyses necessary.

38. If your response to the above question is affirmative, please provide detailed information of your analyses. If your response is negative, please explain why not.

RESPONSE:

See Gulf's response to Item No. 37.

39. Gulf Power Company indicates that (see page 9 of the Petition):

> The Agreements were analyzed, negotiated and executed under Gulf Power's 2014 energy budget which included 2014 fuel price forecasts. [...] Following the negotiation and execution of the Agreements, the Company's 2015 energy budget was released. For informational purposes, Gulf performed a second economic evaluation based in the 2015 forecasts.

a. Please explain the purpose of Gulf's annual energy budgets, which data is included in the budget, and the number of years of the projected data.
b. Please explain in greater detail how each of the Company's 2014 and 2015 energy budget was used in evaluating the cost-effectiveness of the proposed Agreements for each year within the Agreements' life time.

RESPONSE:

a. Gulf's annual energy budgets are the result of production cost analysis using the PROSYM model. The budget's purpose is to forecast Gulf and Southern Electric System (collectively SES) generating unit performance, energy output, and the resulting avoided costs, comprised of: fuel, variable O&M, fuel handling, and emission costs required to serve SES customers' loads. The major inputs into the model include SES operating company load forecasts, SES unit operating and performance assumptions, including planned and unplanned maintenance outage information, and forecasted prices for contract and spot fuels (coal, natural gas, uranium, and distillate). Gulf's Energy Budget is used for a variety of planning purposes including economic analyses, internal reporting, regulatory cost recovery and generation performance filings. For this analysis avoided cost projections were evaluated over a 25 year period.

b. The energy budget provides a unique avoided cost for each hour of a calendar year which is used to determine the annual solar weighted avoided cost. The annual solar weighted avoided cost is simply the annual average avoided cost during daylight hours.

The solar weighted avoided cost is calculated by following the four steps below:

1. Multiply each hour's expected solar production (MWh) by that same hour's avoided cost ($/MWh) to get the total avoided cost ($) for that hour

2. Sum the hourly total avoided cost for the year to calculate total annual avoided cost
3. Sum the expected solar hourly production for each hour of the year to calculate total annual solar production
4. Divide the total annual avoided cost by the total annual solar production to get the annual solar weighted avoided cost ($/MWh)

The solar weighted avoided cost is then compared to the Energy Purchase Agreement price to determine if the project is economic in that year. This calculation is performed for all 25 years.

The hourly avoided cost is the only input that changes from the 2014 to 2015 analysis.

The following questions refer to Footnote 2 on page 8 of the Petition.

40. Please explain in greater detail whether and how the proposed three energy purchase agreements are cost-effective on a stand-alone basis under the Company's 2014 energy budget throughout the 25 year contract life. Please provide supporting workpapers (in MS Excel format with formula intact).

RESPONSE:

On a stand-alone basis, the contract energy price for each agreement increases by 2.5%. Even with the higher contract energy price, the contract pricing is below solar weighted avoided cost in all years. Therefore, all three energy purchase agreements are cost-effective on a stand-alone basis.

Confidential electronic attachments are located on the enclosed DVD labeled Docket No. 150035-EI Staff's First Data Request (Nos 1-44) Disk 1. Please see Excel file named "DR1.40.2014 Cost Effectiveness Stand Alone CONF.xlsx".

41. Please explain in greater detail how the proposed energy purchase agreements are cost-effective on a combined basis, under the Company's 2014 energy budget, throughout the 25 year contract life. Please provide supporting workpapers (in MS Excel format with formulae intact).

RESPONSE:

As noted in Gulf's response to Item No. 40, pricing under the agreements increases if fewer than three agreements receive regulatory approval. When Gulf speaks in terms of a "combined basis," Gulf is referring to all three agreements receiving regulatory approval. In such event, the volume price discount remains fully intact and the pricing under each of the agreements remains below solar weighted avoided cost in all years. Therefore, all three energy purchase agreements are cost-effective.

Confidential electronic attachments are located on the enclosed DVD labeled Docket No. 150035-EI Staff's First Data Request (Nos 1-44) Disk 1. Please see Excel file named "DR1-41.2014 cost effectiveness combined CONF.xlsx".

42. Please explain in greater detail whether and how the proposed three energy purchase agreements are cost-effective on a stand-alone basis under the Company's 2015 energy budget throughout the 25 year contract life. Please provide supporting work papers (in MS Excel format with formulae intact).

RESPONSE:

On a stand-alone basis, the contract energy price for each agreement increases by 2.5%. Because projected avoided costs in the 2015 Energy Budget are lower than projected avoided costs in the 2014 energy budget and the energy price for each agreement increases when they stand alone, each of the three energy purchase agreements is not cost-effective on a stand-alone basis.

Confidential electronic attachments are located on the enclosed DVD labeled Docket No. 150035-EI Staff's First Data Request (Nos 1-44) Disk 1. Please see Excel file named "DR1-42.2015 Cost Effectiveness Stand Alone CONF.xlsx".

43. Please explain in greater detail whether and how the proposed energy purchase agreements are cost-effective on a combined basis, under the Company's 2015 energy budget, throughout the 25 year contract life. Please provide supporting workpapers (in MS Excel format with formulae intact).

RESPONSE:

As noted in Gulf's response to Item No. 40, pricing under the agreements increases if fewer than three agreements receive regulatory approval. When Gulf speaks in terms of a "combined basis," Gulf is referring to all three agreements receiving regulatory approval. In such event, the volume price discount remains fully intact. On a combined basis, the three energy purchase agreements are below solar weighted avoided cost in most years over the 25 year term. The net present value of the differential between contract price and avoided cost is negative. Therefore, the three purchase agreements are cost-effective over the full 25 year term.

Confidential electronic attachments are located on the enclosed DVD labeled Docket No. 150035-EI Staff's First Data Request (Nos 1-44) Disk 1. Please see Excel file named "DR1-43. 2015 Cost Effectiveness Combined CONF.xlsx".

For the following questions, please refer to the Petition, Section I through III, pages 4 – 6.

44. Gulf Power Company indicates that:

> Gulf Power intends to lease the site[s] from the Air Force (or: the Navy) and, in turn, sublease the site[s] to Gulf Coast Solar Center I, (or: II, or: II) LLC [...], Gulf Coast will bear full responsibility for cash payments or other consideration due to the Air Force (or: the Navy) under the lease agreement[s].

a. Please explain why Gulf Power Company would lease, then sublease, the sites, given that the Company would not actually use the sites and takes no responsibility towards the leasing cost.
b. Will the Company and/or its customers receive any monetary and/or non-monetary benefit in lieu of these leasing arrangements?
c. Has Gulf Coast I, II, and III agreed in writing to bear full responsibility for cash payments or other considerations due to the Air Force and Navy under Gulf's pending land lease agreement[s]? If so, please provide such documents.
d. In the event Gulf Coast I, II, and III have not, and ultimately do not, agree to bear full responsibility for cash payments or other considerations due to the Air Force and Navy under Gulf's pending land lease agreement[s] via a sublease agreement, does Gulf Power intend to terminate its energy purchase agreements with Gulf Coast I, II, and III? Please explain.

RESPONSE:

a. Under the terms of each contract, Gulf is the exclusive beneficiary of the output from the facilities to be placed on the leased property. Gulf Power has provided electric service to these Naval and Air Force installations for many years. In this role Gulf Power has become a known and trusted resource for the military. Because of this long-standing relationship, both Gulf Power and the military believe that it is desirable for Gulf Power to act as the primary lessee. Additionally, Gulf Power holds an option to purchase the solar facilities. If Gulf Power exercises one or more purchase options, the proposed leasing arrangement avoids the need to renegotiate lease terms with the military.

b. As noted in subpart (a), the proposed leasing arrangement facilitates the development of the facilities that will provide the electricity under the energy purchase agreements. Also, as noted in subpart (a), the leasing arrangement provides comfort to the military and allows for a seamless transition in the event Gulf purchases one or more facilities. These military installations are among Gulf Power's largest customers and all of Gulf's customers have an interest in ensuring these installations are positioned for success in the future. The leasing arrangement helps accomplish that objective. The leasing arrangement also avoids the time and expense of additional lease negotiations. This also benefits Gulf's customers.

c. Not at this time. However, it has been a fundamental understanding of the parties to the energy purchase agreements that Gulf Coast I, II and III will bear this responsibility and that this understanding will be memorialized in the sublease agreements.

d. Section 3.5.2 of the energy purchase agreements provides Gulf Power with termination rights if the parties are unable to agree upon terms for the sublease agreements. If Gulf Coast I, II and/or III do not agree to bear full responsibility for cash payments or other considerations due to the Air Force and Navy under Gulf's pending land lease agreements Gulf Power anticipates that it would exercise its termination rights. In any event, Gulf Power would not take any action which increases expense to its customers beyond the expenses contemplated under the energy purchase agreements.

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

IN RE: **Petition for approval of energy purchase agreements between Gulf Power Company and Gulf Coast Solar Center I, LLC, Gulf Coast Solar Center II, LLC, and Gulf Coast Solar Center III, LLC**)

Docket No.: **150035-EI**

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true copy of the foregoing was furnished by overnight mail this 13th day of February, 2015 to the following:

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